



WESTERN TECHNOLOGIES INC.

P.O. Box 21387 85036
3737 East Broadway Road
Phoenix, Arizona 85040
(602) 437-3737

June 5, 1990

Mr. Jeff Chow
Earl Kai Chann and Associates
5232 East Pima Street, Suite A
Tucson, Arizona 85712

RE: PRELIMINARY ASBESTOS SURVEY OF THE COTTON AND WATER RESEARCH LABORATORIES IN PHOENIX, ARIZONA. WT JOB NO. 7130K042.

Dear Mr. Chow:

In response to your written request, Western Technologies Inc. (WT) performed a preliminary visual survey to identify asbestos-containing materials (ACMs) at the U.S.D.A. Cotton and Water Research Laboratories at 4135 East Broadway Road, Phoenix, Arizona. On May 2, 1990, Mr. Scott Grant and Mr. Alfred Maldonado of WT toured the buildings, sampled, and quantified suspect building materials.

SURVEY METHODS

Thirty-one samples were taken for bulk asbestos analysis. The location, asbestos content, and type of material of each sample are shown in Appendix A. Chain-of-custody records, maintained throughout the project, are presented with laboratory reports in Appendix B. Samples were analyzed by WT using polarized light optical microscopy (PLM) methods. Asbestos was observed in 18 of the 31 samples.

SURVEY RESULTS

Analysis of samples indicated that floor tile, mastic, baseboard adhesive (BBA), thermal system insulation (TSI), and transite panels in various locations in the facilities contain asbestos. There is also vent tape and door panels located in the Cotton Research Laboratory #21 and the greenhouses on the south side of the Water Research Laboratory, respectively that were not sampled but are assumed to be asbestos. All of these materials, except the tape, are non-friable in their present state, but can become friable during removal or by other maintenance activities. When these types of non-friable materials are disturbed, there is a possibility for the release of asbestos fibers, thus creating a hazardous environment. Also identified in the survey as an asbestos-containing material is

thermal system insulation (TSI) on pipe fittings and machinery located in the mechanical rooms, electrical rooms, outside the buildings in an electrical area and inside buildings above suspended ceilings. These materials are extremely friable and appear to have significant damage in some areas. There is a high potential for fiber release from these damaged areas due to repairing of fixtures, vibration, air movement, and other physical disturbances in the area. Materials identified as asbestos and their locations are as follows:

- Floor Tile - throughout Water Research Laboratory (WRL) and office areas, hydraulic testing lab offices and classroom
- Floor Tile and Mastic - WRL Room #143, Cotton Research Laboratory (CRL) hallways and labs
- Transite Panels - WRL Room #146 and greenhouses
- Thermal System Insulation (TSI) - Southside of WRL, WRL mechanical rooms, CRL hallways and labs above dropped ceilings, CRL electrical room and mechanical room.

The definition of friable asbestos in the EPA National Emissions Standards for Hazardous Air Pollutants Asbestos (NESHAP) requirements (40 CFR 61, Subpart M) is: "any material containing more than 1 percent asbestos by weight, that when dry, can be crumbled, pulverized or reduced to powder by hand pressure."

A summary of the materials found to contain ACMs, estimated quantities, and estimated costs for removal are presented along with sample location plans in Appendix C. The quantities of sampled materials are only estimates. Accordingly, variations in quantities of ACMs are possible.

RECOMMENDATIONS

It is WT's recommendation that when friable material such as TSI on pipe fittings, tanks, and machinery becomes damaged or exposed, abatement procedures should be implemented to prevent exposure to building occupants. Several of these areas were identified in our survey of the facilities. It is also WT's recommendation that these areas be abated by qualified, trained, and medically monitored personnel.



It is WT's understanding that the majority of this project site is slated for possible renovation. The federal requirements for demolition and renovation stated in the EPA National Emissions Standards for Hazardous Air Pollutants Asbestos (NESHAP) Regulations (40 CFR, Subpart M) are presented in Appendix D. If any asbestos-containing material is to be removed, repaired, or encapsulated, a qualified asbestos abatement contractor must be used.

It is further recommended that if asbestos-containing materials are to be disturbed or removed, the U.S.D.A. should:

- o Comply with the federal requirements for demolition which are presented in the EPA National Emissions Standards for Hazardous Air Pollutants Asbestos Regulations (NESHAP, 40 CFR 61, Subpart M)
- o Retain the services of an independent analytical testing laboratory/consulting firm to monitor the performance of the abatement contractor, the completeness of the removal work, and the quality of the air during and after the removal work
- o Document all items and correspondence from the abatement contractor, the testing laboratory and any related items, and retain in a permanent record.

Maricopa County Air Pollution officials must be notified by letter prior to removal (NESHAP Regulation). WT can assist the U.S.D.A. and the demolition or removal contractor in the interpretation of regulations in the selection of appropriate techniques notification and safety precautions for the ACM.

SUMMARY

This is a cursory study and is designed to provide an estimate for the identification of asbestos-containing material, their location, and quantity. As-built drawings and specifications (which were not available) must be reviewed to determine the use of homogenous construction materials throughout the facilities. Materials visually identified to be similar in nature to sampled materials were assumed to be homogenous.

This survey was also limited to accessible areas only. Portions of some building areas were either locked or restricted to authorized personnel due to possible health risks. Areas not accessible during

Earl Kai Chann and Associates
WT Job No. 7130K042

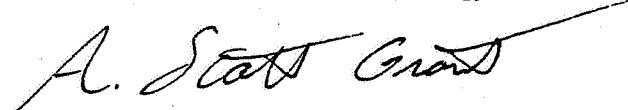
the survey or possibly concealed by existing building materials were not included in this survey. Building walls, gypsum, plaster ceilings, canvas covered vents, and carpeted floors were left intact and assumed to contain no asbestos.

o O o

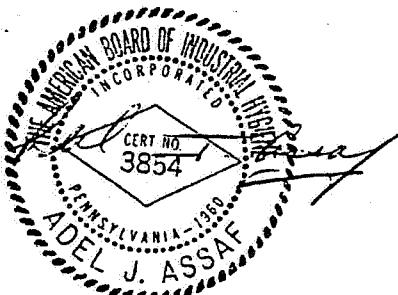
WT is pleased to have assisted Earl Kai Chann and Associates on this project. If you need additional information, please contact us at (602) 437-3737.

Sincerely,

WESTERN TECHNOLOGIES INC.



A. Scott Grant
Industrial Hygiene Specialist
Environmental Engineering Services



Adel J. Assaf, CIH, CSP
Director, Industrial Hygiene Services
Environmental Engineering Services

/gg

- Attachments:
- Appendix A- Summary of Analysis
 - Appendix B- Chain-of-custody Records and Laboratory Reports
 - Appendix C- Material Summary and Sample Location Plan
 - Appendix D- NESHAP Regulations

Copies to: Addressee (3)



**APPENDIX A
SUMMARY OF ANALYSIS**

APPENDIX A
SUMMARY OF ANALYSIS
COTTON AND WATER RESEARCH LABORATORIES

<u>SAMPLE NUMBER</u>	<u>SAMPLE LOCATION</u>	<u>TYPE OF MATERIAL</u>	<u>ASBESTOS CONTENT</u>
EKC-01	Main hallway near Lab #145	Floor tile Mastic	10-15% Chrysotile None Detected
EKC-02	Room #136	Baseboard adhesive (BBA)	None Detected
EKC-03	Main hallway near Room #134	Ceiling tile	None Detected
EKC-04	Main hallway near Room #134	Ceiling tile mastic	None Detected
EKC-05	Bathroom hallway near access door	Ceiling tile mastic	None Detected
EKC-06	Room #128	Ceiling tile mastic	None Detected
EKC-07	Room #107	BBA	None Detected
EKC-08	Room #146	Floor tile	2% Chrysotile
EKC-09	Room #146	Transite	50% Chrysotile
EKC-10	Room #149	Linoleum	10-15% Chrysotile
EKC-11	Room #143	Floor tile Mastic	1-3% Chrysotile 10-15% Chrysotile
EKC-12	Room south of Room #138	Floor tile Mastic	None Detected None Detected
EKC-13	Copy Room #138	Floor tile	None Detected
EKC-14	Outside south of Room #122A	Pipe insulation cover material	None Detected
EKC-15	Outside south of Room #122A	Thermal System Insulation (TSI)	20% Chrysotile & 5% Amosite
EKC-16	Mechanical Room, south of Room #121	Boiler Insulation	70% Chrysotile
EKC-17	Mechanical Room, south of Room #121	Canvas pipe covering	50% Chrysotile
EKC-18	Mechanical Room, south of Room #121	Ceiling plaster finish	None Detected



SUMMARY OF ANALYSIS Cont'd.

<u>SAMPLE NUMBER</u>	<u>SAMPLE LOCATION</u>	<u>TYPE OF MATERIAL</u>	<u>ASBESTOS CONTENT</u>
EKC-19	Boiler Room	TSI/Pipe fitting	50% Chrysotile
EKC-20	Room #601	Floor tile Mastic	15% Chrysotile None Detected
EKC-21	Room #602	Floor tile Mastic	None Detected None Detected
EKC-22	Dosimeter Lab #59	Floor tile	None Detected
EKC-23	Cotton Research Lab (CRL) hallway east of Room #L16	Floor tile Mastic	5% Chrysotile 5% Chrysotile
EKC-24	CRL hallway east of Room #L16	Floor tile Mastic	3% Tremolite
EKC-25	CRL hallway near Room #L11 above ceiling	TSI Pipe fitting	None Detected
EKC-26	CRL boiler room	TSI Tank insulation	None Detected
EKC-27	CRL electrical room	TSI Pipe fitting	8% Chrysotile
EKC-28	CRL laboratory hallway- west end	TSI Pipe fitting	None Detected
EKC-29	CRL laboratory hallway intersection	TSI Pipe fitting	5% Chrysotile
EKC-30	CRL electrical room	TSI Pipe fitting	5% Chrysotile
EKC-31	CRL boiler room	Tank insulation	None Detected

**APPENDIX B
CHAIN-OF-CUSTODY RECORDS AND
LABORATORY REPORTS**



ASBESTOS CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME	SAMPLE INFORMATION			SAMPLE LOCATION	SAMPLE METHOD	ANALYSIS METHOD	CONTAINERS			COMMENTS (Type of Material, Friability, Abatement Activity)	LABORATORY
		BULK	WPIPE	PCM				FINAL CLEARANCE	PLM	PCM	TOTAL VOLUME (liters)	
EKC-01	Cotton Field Research Laboratory <i>Scot Goss</i>				HALLWAY NEAR LAB 4145	X	TILE/PLASTER	21/11/9				
02		Room 134			BEHIND DOOR	X	BBA	29/11/9				
03					HALLWAY NEXT TO Rm 134	X	12X12 CEIL/PLASTER	29/11/9				
DA		" "	" "	" "	" "	X	" "	" " MASER	29/11/9			
05					BARRIER HALLWAY/ACCESS DOOR	X	" "	" " MASER	29/11/9			
06					Room 128	X	" "	" "	11	11	29/11/9	
07					" 107 NEXT TO HALLWAY	X	" "	" "				
08					Room 146 (LAB)	X	" "	" "				
09					" "	X	" "	" "				
10					" 149 "	X	" "	" "				
11					NEXT TO DRAFTING BLDG Rm 143	X	" "	" "				
12					" " COPY Rm " 140	X	" "	" "				
13					COPY Rm	X	" "	" "				
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)			DATE	TIME	RECEIVED BY (SIGNATURE)		
<i>John M. Mazzoni Jr.</i>		11/19/02	1:30		RELINQUISHED BY (SIGNATURE)							
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)			DATE	TIME	RECEIVED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE			DATE	TIME	TURNAROUND	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Routine RUSH
<i>John M. Mazzoni Jr.</i>								11/19/02	1:30	1:30	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Emergency RUSH

ASBESTOS CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME	SAMPLE IDENTIFICATION			SAMPLE LOCATION	ANALYSIS METHOD	COMMENTS (Type of Material, Friability, Abatement Activity)
		DATE	TIME	TEMP			
7/30K04.2	EARL KAI CHAIN & SECURITIES Cofied Maldonado (Scott Grant)	7/30/00	11:00	"	CUTSIDE TRANSFORMER YARD ELEVATED	X	BLOCK FELT INSULATION
EKC - 14		15	"	"	MECHANICAL RM CUTSIDE NEAR TRANSFORMER YARD	X	ELBOW INSULATION
		16	"	"	MECHANICAL RM CUTSIDE NEAR TRANSFORMER YARD	X	BOILER INSULATION
		17	"	"	MECHANICAL RM CUTSIDE NEAR TRANSFORMER YARD	X	CANVAS A/F COATING
		18	"	"	MECHANICAL RM CUTSIDE NEAR TRANSFORMER YARD	X	CEILING MATERIAL
		19	"	"	MECHANICAL RM CUTSIDE NEAR TRANSFORMER YARD	X	ELBOW INSULATION
		20	"	"	RM 601 CLASS Rm	X	FLOOR TILE
		21	"	"	602 KITCHEN	X	FLOOR TILE
		22	"	"	DISMETER LAB # 59	X	FLOOR TILE
		23	"	"	THE LABORATORY HALLWAY	X	FLOOR TILE/MAT
		24	"	"	1"	X	BBA
		25	"	"	ABOVE CEILIN	X	ELBOW LACING
		26	"	"	BOILER WRAPPIN	X	BOILER WRAPPING
		27	"	"	CHILLER Rm	X	ELBOW LACING
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)		
<u>John Maldonado</u>		7/30/00	11:30		RELINQUISHED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	TURNAROUND
		7/30/00	11:30	Routine	7/30/00	2:30	

White-Testing Laboratory, Yellow-Department Job file, Pink-Field Sampler

 Routine RUSH Emergency RUSH !

ASBESTOS CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME	SAMPLE INFORMATION				SAMPLE LOCATION	SAMPLE METHOD	ANALYSIS METHOD	TOTAL VOLUME (litres)	COMMENT (Type of Material, Friability, Abatement Activity)				
		SAMPLER IDENTIFICATION	DATE	TIME	NUMBER OF CONTAINERS									
7130K042	Water & Cotton Laboratories <i>Scott Grant</i>	EKC-28	5/14/99		1	CRL west end of highway Intersector	X	TST / Mudding 29/31	"	"				
		EKC-29			1	CRL highway Intersector	X	"	"	"				
		EKC-30			1	Electrical Room	X	"	"	"				
		EKC-31			1	Boiler Room	X	"	"	"				
<i>Tank Insulation 201:</i>														
RELINQUISHED BY (SIGNATURE) DATE TIME RECEIVED BY (SIGNATURE)												RELINQUISHED BY (SIGNATURE) DATE TIME RECEIVED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE) DATE TIME RECEIVED BY (SIGNATURE)												RELINQUISHED BY (SIGNATURE) DATE TIME RECEIVED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE) DATE TIME RECEIVED FOR LABORATORY BY (SIGNATURE)												DATE TIME TURNAROUND		
<i>Scott Grant 5/14/99 1510</i>												<i>1/16/00 1511</i>		
												<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Routine RUSH	<input type="checkbox"/> Emergency RUSH

White-Testing Laboratory; Yellow-Department Job File; Pink-Field Sample



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CLIENT: Earl Kai Chann & Associates
Cotton & Water Research Laboratory

SAMPLE NO. : 2901148
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *ML*
PAGE : 1 of 13

CLIENT SAMPLE ID: EKC-01
SAMPLE TYPE : Tile and mastic
SAMPLE SOURCE : Hallway near lab #145
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Light grey floor tile and black mastic, both materials are non-friable.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	10-15% (tile)		
Identification	Chrysotile		

Total Composition: Tile= 10-15% Chrysotile, 5-10% sand, 75% vinyl:
Mastic= 100% tar.

Notes:

PERCENT ASBESTOS OVERALL - Tile= 10-15% Chrysotile: Mastic= None detected.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020



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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901149
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan ML
PAGE : 2 of 13

CLIENT SAMPLE ID: EKC-02
SAMPLE TYPE : Baseboard adhesive
SAMPLE SOURCE : Room 136 behind door
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Brown baseboard adhesive.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 100% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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SAMPLE NO. : 2901150
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan
PAGE : 3 of 13

CLIENT SAMPLE ID: EKC-03
SAMPLE TYPE : Ceiling tile
SAMPLE SOURCE : Hallway next to room 134
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: White ceiling tile.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 75% mineral wool, 5% cellulose, 15% binder, 5% glass beads.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901151
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *AK*
PAGE : 4 of 13

CLIENT SAMPLE ID: EKC-04
SAMPLE TYPE : Ceiling tile mastic
SAMPLE SOURCE : Hallway next to room 134
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Ceiling tile mastic.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 100% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901152
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *sk*
PAGE : 5 of 13

CLIENT SAMPLE ID: EKC-05

SAMPLE TYPE : Ceiling tile mastic
SAMPLE SOURCE : Bathroom hallway/access door
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Ceiling tile mastic.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Refringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 100% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901153
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan/*ML*
PAGE : 6 of 13

CLIENT SAMPLE ID: EKC-06
SAMPLE TYPE : Ceiling tile mastic
SAMPLE SOURCE : Room 128
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Ceiling tile mastic.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 100% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901154
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan
PAGE : 7 of 13

CLIENT SAMPLE ID: EKC-07
SAMPLE TYPE : Baseboard adhesive
SAMPLE SOURCE : Room 107 next to doorway
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Brown baseboard adhesive.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 100% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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CLIENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901155
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan ~~ML~~
PAGE : 8 of 13

CLIENT SAMPLE ID: EKC-08
SAMPLE TYPE : Floor tile
SAMPLE SOURCE : Room 146 (lab)
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Light grey, non-friable floor tile.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	1-2%		
Identification	Chrysotile		

Total Composition: 1-2% Chrysotile, 5-10% sand, 88-94% vinyl.

Notes:

PERCENT ASBESTOS OVERALL - 1-2% Chrysotile.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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SAMPLE NO. : 2901156
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *bk*
PAGE : 9 of 13

CLIENT SAMPLE ID: EKC-09
SAMPLE TYPE : Transite panels
SAMPLE SOURCE : Room 146 (lab)
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Grey, non-friable transite material.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	50%		
Identification	Chrysotile		

Total Composition: 50% Chrysotile, 50% matrix (cement).

Notes:

PERCENT ASBESTOS OVERALL - 50% Chrysotile.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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CLIENT: Earl Kai Chann & Associates
Cotton & Water Research Laboratory

SAMPLE NO. : 2901157
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *JKL*
PAGE : 10 of 13

CLIENT SAMPLE ID: EKC-10
SAMPLE TYPE : Yellow linoleum
SAMPLE SOURCE : Room 149 (lab)
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Yellow, non-friable linoleum with paper backing.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Wavey	
Birefringence	Low	
Sign of elongation	+	
Extinction	Parallel	
D.S. test, RI of matching liquid	1.55	
Approx. quantity	10-15% (average)	
Identification	Chrysotile	

Total Composition: AVERAGE= 10-15% Chrysotile,
10-15% cellulose, 25% binder, 50% vinyl.

Notes: Asbestos was found in the paper only, 20-30% Chrysotile.

PERCENT ASBESTOS OVERALL - 10-15% Chrysotile, average for entire sample.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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SAMPLE NO.: 2901158
INVOICE NO.: 7130W042
DATE: 5-10-90
REVIEWED BY: G. Kalfayan *JK*
PAGE: 11 of 13

CLIENT SAMPLE ID: EKC-11
SAMPLE TYPE : Floor tile and mastic
SAMPLE SOURCE : Next to doorway by room 143
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Light grey floor tile and black mastic, both materials are non-friable.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Wavey	
Birefringence	Low	
Sign of elongation	+	
Extinction	Parallel	
D.S. test, RI of matching liquid	1.55	
Approx. quantity	1-3% (tile), 10-15% (mastic)	
Identification	Chrysotile	

Total Composition: Tile= 1-3% Chrysotile, 15% sand, 82-84% vinyl:
Mastic= 10-15% Chrysotile, 85-90% tar.

Notes:

PERCENT ASBESTOS OVERALL - Tile= 1-3% Chrysotile:
Mastic= 10-15% Chrysotile.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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CURRENT: Earl Kai Chann & Associates
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SAMPLE NO. : 2901159
INVOICE NO.: 7130W042
DATE : 5-10-90
REVIEWED BY: G. Kalfayan *dk*
PAGE : 12 of 13

CLIENT SAMPLE ID: EKC-12
SAMPLE TYPE : Floor tile
SAMPLE SOURCE : Next to copy room/room 143
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-7-90
SAMPLE DATE : 5-2-90
SUBMITTED ON : 5-2-90

BULK ASBESTOS REPORT

Sample Description: Light grey floor tile.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Refraction			
Rate of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 5-10% filler (sand), 90-95% vinyl and calcite.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020



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SAMPLE NO. : 2901283
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *AS*
PAGE : 1 of 14

CLIENT SAMPLE ID: EKC-14
SAMPLE TYPE : Felt wrap
SAMPLE SOURCE : Outside transformer yard
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Black, non-friable felt.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 60% cellulose, 40% tar.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *AA*
PAGE : 2 of 14

CLIENT SAMPLE ID: EKC-15
SAMPLE TYPE : Elbow insulation
SAMPLE SOURCE : Outside transformer yard
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable thermal system insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White	White & green	
Morphology	Wavey	Straight	
Birefringence	Low	Low-moderate	
Sign of elongation	+	+	
Extinction	Parallel	Parallel	
D.S. test, RI of matching liquid	1.55	1.68	
Approx. quantity	20%	5%	
Identification	Chrysotile	Amosite	

Total Composition: 20% Chrysotile, 5% Amosite, 2-3% mineral wool, 72-73% matrix (calcium and magnesium carbonates, glass beads, pumica).

Notes:

PERCENT ASBESTOS OVERALL - 20% Chrysotile, 5% Amosite.

*nalyst: Anna Logvinenko Anna Logvinenko

alysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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CLIENT: Earl Kai Chann & Associates

SAMPLE NO. : 2901285
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *mm*
PAGE : 3 of 14

CLIENT SAMPLE ID: EKC-16
SAMPLE TYPE : Boiler insulation
SAMPLE SOURCE : Mechanical room outside
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: 2 layers of thermal system insulation: #1) Grey, friable, hard insulation (external layer); #2) Light grey, loose, friable insulation (internal layer).

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Wavey	
Birefringence	Low	
Sign of elongation	+	
Extinction	Parallel	
D.S. test, RI of matching liquid	1.55	
Approx. quantity	50% (layer 1), 70% (layer 2)	
Identification	Chrysotile	

Total Composition: Layer #1)= 50% Chrysotile, 50% binder:
Layer #2)= 70% Chrysotile, 30% binder.

Notes:

PERCENT ASBESTOS OVERALL - Layer #1)= 50% Chrysotile:
Layer #2)= 70% Chrysotile.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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SAMPLE NO. : 2901286
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *EE*
PAGE : 4 of 14

CLIENT SAMPLE ID: EKC-17

SAMPLE TYPE : Canvas pipe covering
SAMPLE SOURCE : Mechanical room outside
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Painted cotton fabric. Sample also contains the remains of grey insulation material (contamination).

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Wavey	
Refringence	Low	
Sign of elongation	+	
Extinction	Parallel	
D.S. test, RI of matching liquid	1.55	
Approx. quantity	40-50% (Insulation)	
Identification	Chrysotile	

Total Composition: Fabric= 100% cotton:

Insulation= 40-50% Chrysotile, 50-60% binder.

Notes:

PERCENT ASBESTOS OVERALL - Insulation= 40-50% Chrysotile:
Fabric= None detected.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *AKC*
PAGE : 5 of 14

CLIENT SAMPLE ID: EKC-18
SAMPLE TYPE : Ceiling material
SAMPLE SOURCE : Mechanical room outside
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: 2 layers of ceiling material: Layer #1) White finish, external layer: Layer #2) Beige mortar, internal layer.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: Layer #1) Finish= 100% calcite and gypsum:

Layer #2) Mortar= 40% filler (sand), 60% matrix (gypsum and calcite).

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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SAMPLE NO. : 2901288
INVOICE NO.: 7130W042
DATE : 5-16-'90
REVIEWED BY: A. Assaf *sk*
PAGE : 6 of 14

CLIENT SAMPLE ID: EKC-19
SAMPLE TYPE : Elbow insulation
SAMPLE SOURCE : Mechanical room
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: 2 layers of thermal system insulation:
Layer #1) Grey, friable, hard insulation material, external layer:
Layer #2) Grey, friable insulation material, internal layer.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	50% (layer 1)		
Identification	Chrysotile		

Total Composition: Layer #1)= 50% Chrysotile, 50% binder:

Layer #2)= 35% mineral wool, 5% glass beads, 60% matrix (mostly calcium carbonate).

Notes:

PERCENT ASBESTOS OVERALL - Layer #1)= 50% Chrysotile:
Layer #2) None detected.

Catalyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf
PAGE : 7 of 14

CLIENT SAMPLE ID: EKC-20

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

SAMPLE TYPE : Floor tile and mastic
SAMPLE SOURCE : Room 601 classroom
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

BULK ASBESTOS REPORT

Sample Description: Grey/beige floor tile and black mastic, both materials are non-friable.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Refringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	15% (tile)		
Identification	Chrysotile		

Total Composition: Tile= 15% Chrysotile, 15% filler (sand), 70% vinyl:
Mastic= 100% tar.

Notes:

PERCENT ASBESTOS OVERALL - Tile= 15% Chrysotile: Mastic= None detected.

Analyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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SAMPLE NO. : 2901290
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *bk*
PAGE : 8 of 14

CLIENT SAMPLE ID: EKC-21
SAMPLE TYPE : Floor tile and mastic
SAMPLE SOURCE : Room 602 kitchen
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Light grey floor tile and mastic (mixture of black and yellow adhesives).

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: Tile= 30% filler (sand), 70% vinyl:
Mastic= 100% tar and organic glue.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Catalyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *AM*
PAGE : 9 of 14

CLIENT SAMPLE ID: EKC-22
SAMPLE TYPE : Floor tile
SAMPLE SOURCE : Dosimeter lab #59
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Beige floor tile.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Refringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 25% filler (sand), 75% vinyl.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Catalyst: Anna Logvinenko

Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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SAMPLE NO. : 2901292
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *pk*
PAGE : 10 of 14

CLIENT SAMPLE ID: EKC-23
SAMPLE TYPE : Floor tile and mastic
SAMPLE SOURCE : Laboratory hallway
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldona
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Grey/beige floor tile and black mastic, both materials are non-friable.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Wavey	
Birefringence	Low	
Sign of elongation	+	
Extinction	Parallel	
D.S. test, RI of matching liquid	1.55	
Approx. quantity	5% (tile), 5% (mastic)	
Identification	Chrysotile	

Total Composition: Tile= 5% Chrysotile, 15% filler (quartz sand),
80% binder (vinyl):
Mastic= 5% Chrysotile, 95% tar.

Notes:

PERCENT ASBESTOS OVERALL - Tile= 5% Chrysotile: Mastic= 5% Chrysotile.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *bk*
PAGE : 11 of 14

CLIENT SAMPLE ID: EKC-24
SAMPLE TYPE : Baseboard adhesive
SAMPLE SOURCE : Laboratory hallway
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Brown, non-friable mastic.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2
Color	White	
Morphology	Elongated fragments	
Birefringence	Low	
Sign of elongation	+	
Extinction	Parallel & oblique	
D.S. test, RI of matching liquid	1.605	
Approx. quantity	1-3%	
Identification	Tremolite	

Total Composition: 1-3% Tremolite, 97-99% organic glue.

Notes:

PERCENT ASBESTOS OVERALL - 1-3% Tremolite.

Analyst: Anna Logvinenko *Anna Logvinenko*
Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020
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SAMPLE NO. : 2901294
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf
PAGE : 12 of 14

CLIENT SAMPLE ID: EKC-25
SAMPLE TYPE : Elbow lagging
SAMPLE SOURCE : Lab. hallway/above ceiling
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable thermal system insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Refringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 35% mineral wool, 5% glass beads, 60% matrix (mostly calcium carbonate).

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Catalyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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CLIENT: Earl Kai Chann & Associates

CLIENT SAMPLE ID: EKC-26
SAMPLE TYPE : Boiler wrapping
SAMPLE SOURCE : Lab. hallway/boiler room
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

SAMPLE NO. : 2901295
INVOICE NO. : 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf
PAGE : 13 of 14

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: White, friable thermal system insulation (TSI).

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 30% mineral wool, 5% glass beads, 65% matrix (calcium carbonate).

Notes: A trace amount (less than 1%) of asbestos containing grey TSI material was found in the sample. This trace material is not considered as a part of the sample's primary matrix.

PERCENT ASBESTOS OVERALL - White insulation= None detected.

Analyst: Anna Logvinenko Anna Logvinenko

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020



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CLIENT: Earl Kai Chann & Associates

SAMPLE NO. : 2901296
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: A. Assaf *AS*
PAGE : 14 of 14

CLIENT SAMPLE ID: EKC-27
SAMPLE TYPE : Elbow lagging
SAMPLE SOURCE : Lab. hallway/chiller room
SUBMITTED BY : A. Maldonado
SAMPLED BY : A. Maldonado

AUTHORIZED BY: A. Maldonado
CLIENT P.O. : None
ANALYSIS DATE: 5-14-90
SAMPLE DATE : 5-10-90
SUBMITTED ON : 5-10-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable thermal system insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	5-8%		
Identification	Chrysotile		

Total Composition: 5-8% Chrysotile, 2-3% cellulose, 30-35% mineral wool, 5% glass beads, approximately 55% matrix (mostly calcium carbonate).

Notes:

PERCENT ASBESTOS OVERALL - 5-8% Chrysotile.

Catalyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

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P.O. Box 21387 85036
3737 East Broadway Road
Phoenix, Arizona 85040
(602) 437-3737

CLIENT: Earl Kai Chann & Associates
RE: Water & Cotton Res. Labs

SAMPLE NO.: 2901327
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: G. Kalfayan *JK*
PAGE : 1 of 4

CLIENT SAMPLE ID: EKC-28
SAMPLE TYPE : Insulation
SAMPLE SOURCE : CRL west end of hallway
SUBMITTED BY : S. Grant
SAMPLED BY : S. Grant

AUTHORIZED BY: S. Grant
CLIENT P.O. : None
ANALYSIS DATE: 5-15-90
SAMPLE DATE : 5-14-90
SUBMITTED ON : 5-14-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable thermal system insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Refringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 35% mineral wool, 60% matrix (mostly calcium carbonate), 5% glass beads.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Catalyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

1350L



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SAMPLE NO. : 2901328
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: G. Kalfayan *JK*
PAGE : 2 of 4

CLIENT SAMPLE ID: EKC-29
SAMPLE TYPE : Insulation
SAMPLE SOURCE : CRL hallway intersection
SUBMITTED BY : S. Grant
SAMPLED BY : S. Grant

AUTHORIZED BY: S. Grant
CLIENT P.O. : None
ANALYSIS DATE: 5-15-90
SAMPLE DATE : 5-14-90
SUBMITTED ON : 5-14-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	5%		
Identification	Chrysotile		

Total Composition: 5% Chrysotile, 1-3% cellulose, 25-30% mineral wool, 5% glass beads, approximately 60% matrix (mostly calcite).

Notes:

PERCENT ASBESTOS OVERALL - 5% Chrysotile.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

1350L



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SAMPLE NO. : 2901329
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: G. Kalfayan *JK*
PAGE : 3 of 4

CLIENT SAMPLE ID: EKC-30
SAMPLE TYPE : Insulation
SAMPLE SOURCE : Electrical room
SUBMITTED BY : S. Grant
SAMPLED BY : S. Grant

AUTHORIZED BY: S. Grant
CLIENT P.O. : None
ANALYSIS DATE: 5-15-90
SAMPLE DATE : 5-14-90
SUBMITTED ON : 5-14-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color	White		
Morphology	Wavey		
Birefringence	Low		
Sign of elongation	+		
Extinction	Parallel		
D.S. test, RI of matching liquid	1.55		
Approx. quantity	5%		
Identification	Chrysotile		

Total Composition: 5% Chrysotile, 1-3% cellulose, 25-30% mineral wool, 5% glass beads, approximately 60% matrix (mostly calcite).

Notes:

PERCENT ASBESTOS OVERALL - 5% Chrysotile.

Catalyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

1350L



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CLIENT: Earl Kai Chann & Associates
RE: Water & Cotton Res. Labs

SAMPLE NO. : 2901330
INVOICE NO.: 7130W042
DATE : 5-16-90
REVIEWED BY: G. Kalfayan/*AK*
PAGE : 4 of 4

CLIENT SAMPLE ID: EKC-31
SAMPLE TYPE : Tank insulation
SAMPLE SOURCE : Boiler room
SUBMITTED BY : S. Grant
SAMPLED BY : S. Grant

AUTHORIZED BY: S. Grant
CLIENT P.O. : None
ANALYSIS DATE: 5-15-90
SAMPLE DATE : 5-14-90
SUBMITTED ON : 5-14-90

BULK ASBESTOS REPORT

Sample Description: Grey, friable thermal system insulation.

Fiber Identification

Optical Properties	Fiber 1	Fiber 2	Fiber 3
Color			
Morphology			
Birefringence			
Sign of elongation			
Extinction			
D.S. test, RI of matching liquid			
Approx. quantity			
Identification			

Total Composition: 25% mineral wool, 70% matrix (mostly calcium carbonate), 5% glass beads.

Notes:

PERCENT ASBESTOS OVERALL - None detected.

Analyst: Anna Logvinenko *Anna Logvinenko*

Analysis Method: Polarized Light Microscopy - EPA-600/M4-82-020

1350L

**APPENDIX C
MATERIAL SUMMARY AND
SAMPLE LOCATION DIAGRAM**



MATERIAL SUMMARY

<u>Location</u>	<u>Material Type</u>	<u>Estimated Quantity</u>	<u>Estimated Cost of Removal*</u>
Throughout Water Research Labs and Office Areas	Floor Tile	8300 ft ²	22,800.00
Water Research Laboratory (WRL) #146 and Greenhouse	Transite Panels	540 ft ²	4,000.00
WRL	Linoleum	180 ft ²	500.00
WRL Room #143	Floor Tile/Mastic	500 ft ²	1,400.00
Outside WRL, south of Room #1224	TSI on Fitting	20 Fittings	1,200.00
WRL Mechanical Rooms	Boiler Insulation	550 ft ²	3,300.00
WRL Mechanical Rooms	TSI Pipe Insulation	175 linear feet	5,250.00
WRL Mechanical Rooms	TSI Fittings	25 Fittings	1,500.00
Hydraulic Testing Lab, Offices, and Classrooms	Floor Tile	1200 ft ²	3,300.00
Cotton Research Lab (CRL) Hallway near south entrance	Baseboard Adhesive (BBA)	2300 linear feet	2,900.00
CRL Hallways and Labs	Floor Tile/Mastic	10,000 ft ²	27,500.00
CRL Electrical Room	TSI Fittings	200 Fittings	12,000.00

* Cost estimates are rounded off to the nearest hundred.

MATERIAL SUMMARY
USDA COTTON AND WATER RESEARCH LABS

<u>Material & Location</u>	<u>Estimated Quantity</u>	<u>Estimated Cost of Removal*</u>	<u>Estimated Cost of Project Management</u>
PHASE I			
Floor tile throughout Water Research Labs (WRL) and Office Areas	8300 ft ²		
Linoleum in WRL	180 ft ²		
Floor tile & mastic in WRL Room #143	500 ft ²		
		TOTAL OF PHASE I \$24,700.00	\$12,550.00
PHASE II			
TSI on fittings, Outside WRL, WRL, south of Room #1224	20 Fittings		
Boiler insulation in WRL Mechanical rooms	550 ft ²		
TSI pipe insulation in WRL Mechanical rooms	175 linear feet		
TSI fittings in WRL Mechanical rooms	25 Fittings		
		TOTAL OF PHASE II \$11,250.00	\$ 8,850.00
PHASE III			
Transite panels in WRL #146 and Greenhouse	540 ft ²	\$ 4,000.00	\$ 1,800.00
PHASE IV			
Floor tile in Hydraulic Testing Lab, Offices, and Classrooms	1200 ft ²	\$ 3,300.00	\$ 2,400.00



MATERIAL SUMMARY-Cont'd.

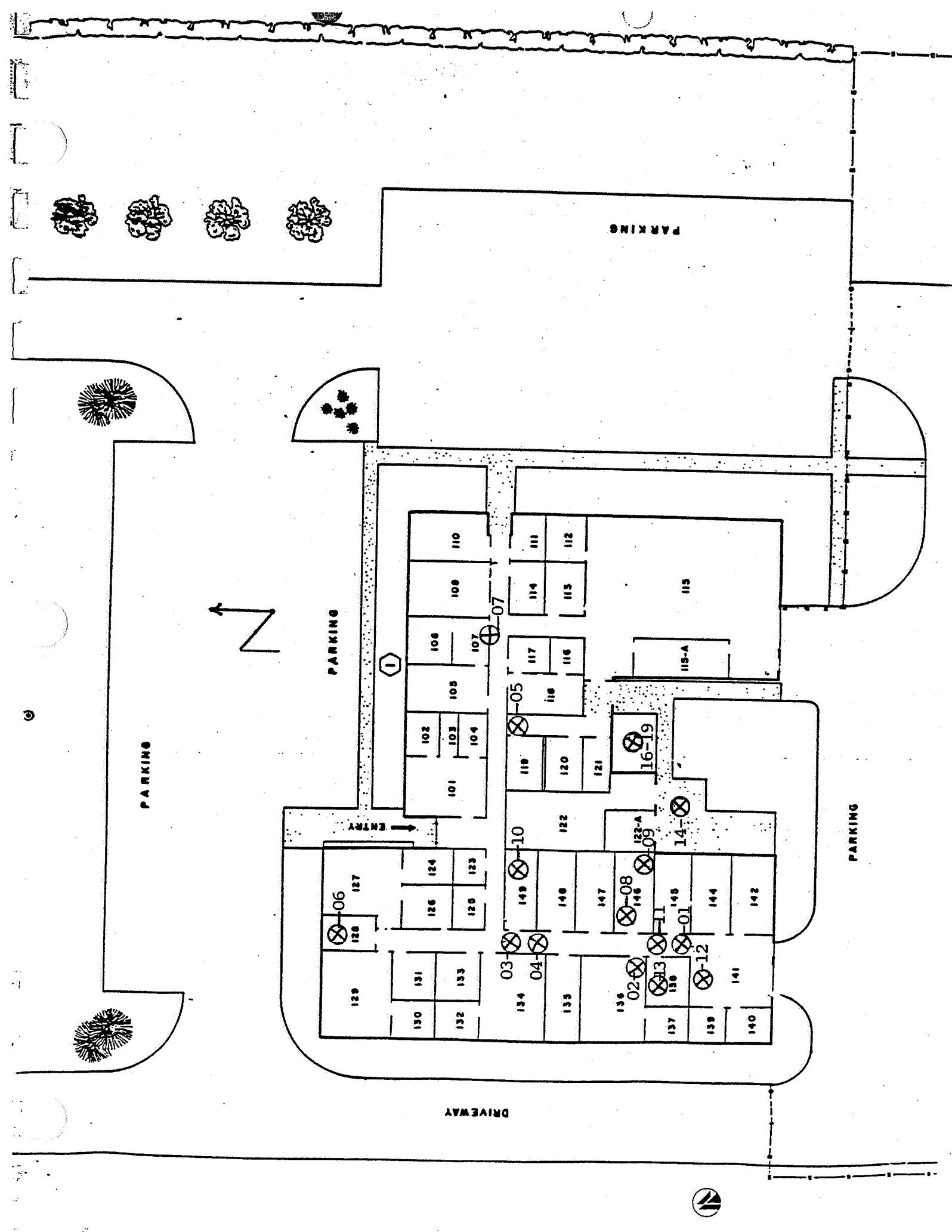
<u>Material & Location</u>	<u>Estimated Quantity</u>	<u>Estimated Cost of Removal*</u>	<u>Estimated Cost of Project Management</u>
PHASE V			
Baseboard adhesive in Cotton Research Lab (CRL) hallway near south entry	2300 linear feet		
Floor tile and mastic in CRL hallways and labs	10,000 ft ²		
TOTAL OF PHASE V \$30,400.00			\$17,500.00

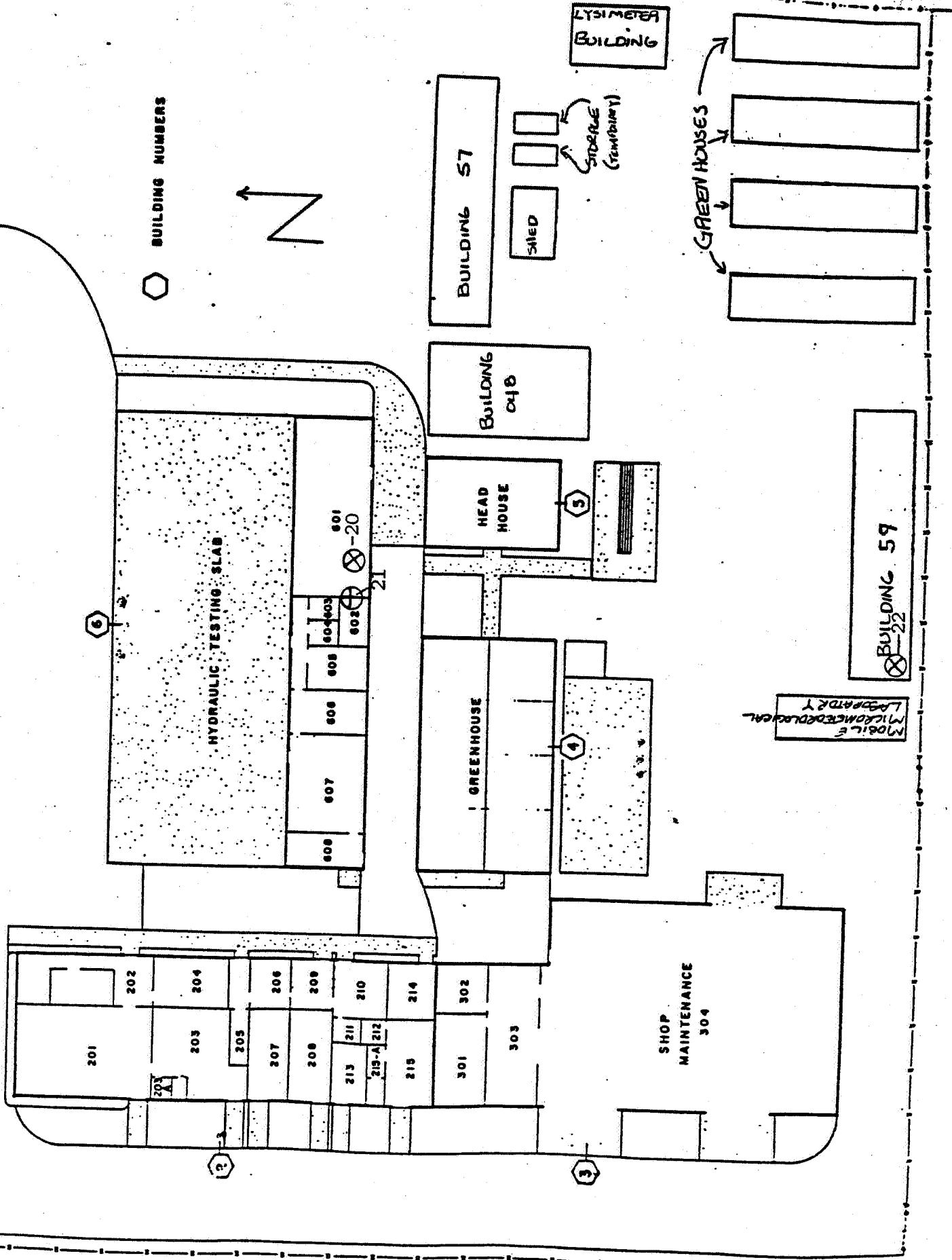
PHASE VI

TSI fittings in CRL Electrical room	200 Fittings	\$12,000.00	\$ 5,850.00
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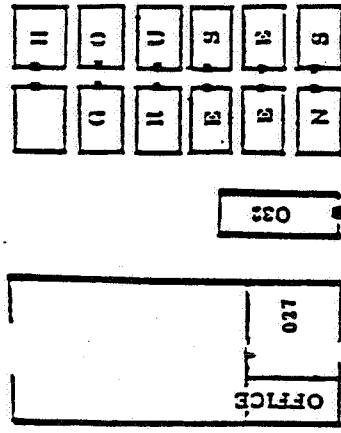
* Cost estimates are rounded off to the nearest hundred.







METAL SHED



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INSPECTORY
032

HEADHOUSE
003

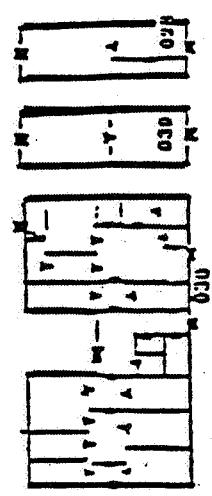
GREEN HOUSE
MACHINERY
STOREAGE
SHED

003

INSPECTORY

HEADHOUSE

CHIMICAL SHED



001

BREAKROOM

EAST

SINK

TRAILER

WEST

QUENCH HOUSE 18

QUENCH HOUSE 19

ENVIRONMENTAL
CONTROLL, ROOM

ELECTRICAL
ROOM

STORAGE

SOIL

OUTSIDE
ELECTRICAL
GENERATORS

REUSED SOIL

SOIL

TRAILER

WEST

REST ROOM

SOIL

TRAILER

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ENVIRONMENTAL,
CONTROLL, ROOM

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GENERIC
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BUILDING 001